

Remarks

Claims 1-20 are currently pending in the above-captioned matter. Claims 1 and 13 have been amended hereby. After entry of this amendment claims 1-20 remain pending, claims 1 and 13 being independent. No new matter has been added. Remarks made herein are based on the claims as amended hereby.

Drawings

Corrected drawings were required by the Patent Office. Applicant has submitted new corrected drawings with this Response, which are believed to be in compliance with 37 CFR 1.121(d). Acceptance of the drawings submitted herewith is respectfully requested.

Claim Objections

Claims 1 and 13 were objected to as unclear due to the phrase "for 5 seconds or less". Claims 1 and 13 have been amended to clarify this phrase and withdrawal of the objection is requested.

Rejection under 35 USC 103

Claims 1, 3-5, 8 and 11 were rejected under 35 U.S. C. 103(a) as being unpatentable over Imai et al. (WO 99/64544). The Patent Office is correct in stating that Imai et al. teaches applying a lubricant composition for plastic working of metals by first cleaning the metal, then contacting the metal with an aqueous lubricious film formation treating solution which contains at least one kind of inorganic salt and at least one kind of lubricant, and finally drying after application of lubricant. However these features alone are not Applicants' invention. Applicants' invention is directed to a continuous inline system of coating rod, which is neither taught nor suggested by Imai et al. The rejection is respectfully traversed.

Applicants distinguished Imai et al. in the specification, stating:

In order to overcome the problems mentioned above, the inventors of the present invention also developed lubricant compositions for use in the plastic working of metal materials (Japanese Patent Publication No. 2000-63,880). They are formed by dissolving or dispersing (A) a synthetic resin and (B) an aqueous inorganic salt in water, wherein the solid matter weight ratio of (A) to (B) is set within the range of 0.25/1 to 9/1. In the lubricants formed in the present invention, synthetic resins are used as the main component and thus they could not produce thorough lubricity under harsh processing conditions. Moreover, although a description regarding lubricity is given in this Patent Publication, a sufficient description regarding the continuous inline processing of wire rod is not provided. Paragraph 0009 of the US application (emphasis added).

Claims 1, 13 and 21 specifically claim a “continuous inline system” method. Nothing in Imai et al. teaches or suggests how one would use the compositions disclosed in a continuous inline system, or of the time required, in a continuous inline system. One must consider all of the teachings of the reference. Imai teaches cleaning times of 10 minutes which are widely different from Applicants’ claimed 20 seconds or less. This is an order of magnitude difference. Likewise, the suggested lubricating time of Imai is six times longer than Applicants’ 5 seconds or less. There is no teaching or suggestion of how to reduce the cleaning or lubricating time.

One of skill in the art would be motivated to avoid use of Imai, where the time required to clean and lubricate is so long. If the teachings of Imai were used in a continuous inline system, the substrate would either have to move 300 times slower or the bath would have to be very large to accomplish the cleaning time taught by Imai. There is no teaching or suggestion in Imai of how to shorten the cleaning time to Applicants’ twenty seconds or less. Likewise, there is no teaching or suggestion of how to shorten the lubricating step to 1/6 of the time that Imai takes. The lubricating bath would have to be six times longer than or the wire moving at 1/6 of Applicants’ rate in order to properly coat the wire rod.

In order to support a rejection under 35 U.S.C. §103, the Office must establish that there was some suggestion, either in the reference or in the relevant art, of how to

modify what is disclosed to arrive at the claimed invention. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 U.S.P.Q. 2d (BNA) 1434, 1438 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989).

Applicant submits that the rejection of claims 1, 3-5, 8 and 11 over Imai should be withdrawn.

Claims 1-6, 8-11, 13-14 and 16-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Imai et al. in view of U.S. Patent 4,688,411 (Hagita et al). This rejection is respectfully traversed. Hagita et al. does not remedy the deficiencies of Imai. Hagita is directed to a continuous drawing of wire, but uses zinc phosphating conversion coating and lubricating with a reactive soap prior to drawing. This prior art practice involves a three step coating process of phosphating, rinsing and lubrication, wherein each coating reacts with the surface being coated. When using the stearate soaps of Hagita, a prior phosphating lubricant is always applied. For very light draws, the phosphating and rinsing can be used alone as the lubricant, but the stearate soap is not used alone. Applicants' invention eliminates two of the three steps thereby providing a more efficient and less costly process. Treatment times for applying phosphate are 10-20 seconds and the lowest stearate application time is 2-3 seconds. See, Col. 5, lines 50-65 of U.S. Patent 4,688,411 (Hagita et al). Even without rinsing time, the time required for applying the lubrication in Hagita is much greater than Applicants' claimed five seconds or less. Thus, even if taken together, Imai and Hagita fail to teach or suggest the claimed invention. Accordingly this rejection should be withdrawn.

Claims 7, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai et al taken in view of U.S. Patent 4,688,411 (Hagita et al) alone or when further taken in view of U.S. Patent 5,282,377 (Illig et al.). For the reasons set forth above with regard to Imai and Hagita, Applicants respectfully submit that the claims are patentable over this combination of references. Illig fails to remedy the deficiencies of

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Imai and Hagita, as discussed above.

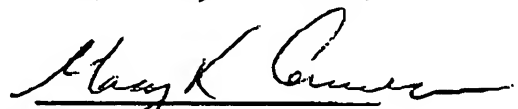
Applicants respectfully submit that the rejections under 35 USC 103 have been obviated and that the claims are patentable over the art of record.

New claim 21 recites a processing liquid consisting essentially of: at least one inorganic salt, at least one lubricant selected from the group consisting of metal soaps, waxes, polytetrafluoroethylene, molybdenum disulfide, and graphite, wherein the solid matter weight ratio of said lubricant to said inorganic salt is within the range of 0.1 to 4.0. This language excludes the resins required as the main component of Imai et al. Applicant respectfully submits that the invention of claim 21 is neither taught nor suggested by the art of record.

Conclusion

Applicants request reconsideration in view of the amendments and remarks contained herein. Applicants submit that the claims are in condition for allowance and a notice to that effect is respectfully requested. The Commissioner is hereby authorized to charge any required fees to Deposit Account No. 01-1250. Please direct any comments or questions regarding this amendment to the undersigned.

Respectfully submitted,



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